ENVIRONMENTAL
Fact Sheet

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

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Protecting Public Drinking Water Sources Based on Source Assessment Reports

NHDES prepared Source Assessment Reports for all public water supply sources in service as of December 31, 2001 and for some community sources that came on line since then. Most of the assessments completed were based on data collected between 1999 and 2002 and have not been subsequently updated. Assistance to update Source Assessment Reports is available from NHDES and published guidance available online from U.S. EPA (See "How to Update and Enhance Your Local Source Water Protection Assessments.") Assessment reports may be downloaded from the department's website.

The Source Assessment Reports rate each water supply source's vulnerability to contamination in terms of up to 13 criteria, or threat categories, as of the date the assessment was done. For each criterion, the water supply source received a high, medium, or low vulnerability rating. The ratings were based on information in NHDES' databases, an on-site survey of critical land uses in the source protection area, and other studies. The assessment reports represent a snapshot in time and the ratings may be based on data that are no longer current. Therefore, the information should be verified and possibly updated before being relied upon for source protection planning.

This fact sheet provides a quick overview of the relationship between Source Assessment Report results and local protection approaches that may be appropriate to address the types of threats identified in the assessments. To use this fact sheet, refer to an assessment report's ranking (high, medium, or low) for each criterion. If the water supply source received a medium or high ranking for a particular criterion, refer to Table 1 to see the typical protection approaches that can be employed to address that category of threat. For a quick explanation of each approach listed in the second column of Table 1, refer to Table 2.

Table 2 summarizes the protection measures that NHDES recommends water suppliers and municipalities consider employing. Because designing an effective source protection program involves an in-depth understanding of threats and there is no single set of protection measures that fits every situation, NHDES recommends involving a wide range of interests within the community to develop a program that is consistent with community goals and values. Such a program will consequently have broad support and excellent chances for success.

NHDES can provide a substantial amount of assistance to water suppliers and municipalities interested in both evaluating the need for drinking water protection and developing a protection program tailored to local needs. NHDES' assistance can take the form of planning and implementation grants, maps showing drinking water resources and threats, publications that describe the following protection approaches in

detail, training, and one-on-one consultations. For more information, contact Paul Susca or Pierce Rigrod in the Drinking Water Source Protection Program at (603) 271-7061 or (603) 271-0688.

For More Information

Please contact the Drinking Water and Groundwater Bureau at (603) 271-2513 or dwgbinfo@des.nh.gov or visit our website at www.des.nh.gov.

Note: This fact sheet is accurate as of September 2019. Statutory or regulatory changes or the availability of additional information after this date may render this information inaccurate or incomplete.

Table 1. Typical Protection Approaches to Address Threat Categories Identified in Source Assessments		
Criterion (Threat Category Listed in the Source Assessment Report)	**Typical Protection Approaches (see Table 2 below)**	**Other Measures/Comments**
Confirmed contaminant detects of concern.	Education Water quality monitoring Inspection program	Investigate to determine source(s) of contaminants associated with human activity
Sanitary radius (75' to 400' from well).	Education Land acquisition Inspection program Health ordinance	
Well or intake integrity.		Typically requires structural improvements.
Known sources of anthropogenic contamination (not covered below) within the wellhead protection area (WHPA) or hydrologic area of concern (HAC).	Water quality monitoring	Individual management plans for each known source of contamination.
Potential sources of anthropogenic contamination (PCSs) (not covered below) within the WHPA or HAC.	Education Inspection program Health ordinance Emergency response planning (for surface sources)	Consider zoning to limit future density of PCSs and address sites when expanding or changing.
Numbered state highways or active railroads in WHPA or HAC.	Emergency response planning Water quality monitoring Land acquisition	Also consider zoning, subdivision and site plan review, and watershed rules (for surface sources) to address associated land uses.
Routine pesticide application in WHPA or HAC.	Education Land acquisition Water quality monitoring	
Septic systems (or sewer lines) located within WHPA or windshield survey area (see note below).	Education Household hazardous waste collection Health ordinance Water quality monitoring	Septic pumping program; or health ordinance could require maintenance of septic systems
Urban land cover in WHPA or HAC.	Education Health ordinance Inspection program Household hazardous waste collection Water quality monitoring	Map storm drain system; look for opportunities for improvements. Consider zoning and site plan/subdivision review to limit future density.
Agricultural land cover in WHPA or within 300 ft of surface water in HAC.	Education Inspection program Water quality monitoring Land acquisition Watershed rule (for surface sources)	Inspection program would be voluntary on the part of farmers. Special grants available for certain on-farm projects.
Farms with 10 or more outdoor animal units in WHPA or watershed.		
Wastewater treatment, spray irrigation, lagoons in WHPA or watershed.	Education Emergency response planning Water quality monitoring	
Projected trophic status based on computer modeling (for certain lakes and reservoirs only).	Education Land acquisition Subdivision and site plan review Zoning Watershed rule Water quality monitoring	More intensive modeling Watershed planning

Table 2. Summary of Source Water Protection Measures	
Protection Approach	**Description**
Education	Education programs for business owners, school-aged children and the general public should always be a part of a local source protection program. Many materials are available for this purpose.
Emergency Response Planning	All sources with roads or certain other land uses near surface waters are vulnerable to accidental spills (motor fuels, other regulated contaminants, sewage, manure, etc.). Water suppliers using these sources should conduct emergency response planning consisting of detailed inventories of land uses and contaminants that may be released, development of communications protocols to minimize response times, and preparations for spill response (containment, clean-up, intake/well shut-off, alternate sources). NHDES has conducted dye tracer studies to determine times of travel to the PWS intakes for large river sources; the results are available from NHDES.
Health Ordinance or Regulation	While land use boards (through zoning and site plan and subdivision review) address future threats, health ordinances and regulations can establish standards that address existing threats, as well as assuring ongoing compliance.
Household Hazardous Waste Collection	To prevent the improper disposal of hazardous wastes, many communities sponsor household hazardous waste collection days or collection centers. Matching grants are available from NHDES.
Inspection Programs	Water suppliers and municipalities can conduct inspection programs to ensure compliance with Best Management Practices (BMPs) for the storage and handling of regulated substances. These programs can rely on voluntary participation of business owners, or they can be mandatory programs based on municipal health regulations. Municipalities may also have inspection programs related to underground storage tanks, forestry practices, gravel excavations, or the application of fertilizer, manure, sludge or septage. The N.H. Department of Agriculture, Markets and Food can be called upon to investigate complaints and ensure compliance with BMPs for the handling and use of fertilizer, manure, compost, and pesticides. NHDES can be called upon for enforcement of certain BMPs.
Land Acquisition	Provides absolute control of land usage. Currently loan and grant money and technical assistance from the federal and state government are available for land acquisition purposes. Water supply land conservation easements may also be used with less cost than outright purchase. Model easements were developed by the Society for Protection of New Hampshire Forests and are available through NHDES. Buffers may also be set aside by developers if the planning board knows protection needs.
Subdivision and Site Plan Review	Subdivision and site plan review provide opportunities to address water supply concerns at the initial stage of development. These regulations may also be modified to set design and/or performance standards for new developments.
Water Quality Monitoring	Monitoring is effective to identify areas needing additional investigation or management. Monitoring identifies the status of watershed water quality and may be used to evaluate trends or as a sentry or early warning system for contamination moving towards the source.
Watershed Rules	Water suppliers can petition NHDES to enact watershed regulations to prohibit certain incompatible land and water uses (e.g. swimming, boating) on or near the water supply source and its tributaries. The advantage of this approach is that its reach may extend to the entire watershed, regardless of municipal boundaries.
Zoning	Zoning regulations may be modified to prohibit or restrict new potential contamination sources from locating in a wellhead protection area (WHPA). This is important for preventing serious impacts to water quality from future development. This should be coupled with other measures if the protection area already contains grandfathered potential contamination sources.